

ABSTRACT

A structure of a substrate used for growing a crystal layer of a semiconductor, particularly a group-III nitride semiconductor and its manufacturing method. The substrate comprises two porous layers on a base. The mean opening diameter of the pores of the first porous layer, the outermost layer, is smaller than the mean diameter of the pores in the second porous layer nearer to the base than the first porous layer. The first and second porous layers have volume porosities of 10 to 90%. More than 50% of the pores of the first porous layer extend from the surface of the first porous layer and reach the interface between the first and second porous layers. Even by a conventional crystal growing method, an epitaxial crystal of low defect density can be easily grown on the porous substrate.